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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,362

09/20/2004

Tanja Schneider

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22850

7590

05/09/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.

1940 DUKE STREET

ALEXANDRIA, VA 22314

EXAMINER

FORTUNA, ANA M

ART UNIT

PAPER NUMBER

1723

NOTIFICATION DATE

DELIVERY MODE

05/09/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/507,362	SCHNEIDER ET AL.	
	Examiner	Art Unit	
	Ana M. Fortuna	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-17, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 13-14, 18-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12, 15-17, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson (US 5,942,120), and alternative Wilkinson ('120) in view of Mier (US 6,723,814) and Applicants admissions. Patent '120 discloses the membrane and the method of making the membrane from hydrophobic polymer and adding a hydrophilic copolymer to modify the hydrophobic membrane character to hydrophilic (abstract, column 2, last paragraph bridging column 3, lines 1-68). The membrane is made by adding a water-insoluble copolymer to the membrane solution (column 4, lines 53-68, column 5, lines 1-68, and column 9, examples 1 and 2). The copolymer includes N-vinylpyrrolidone, and alkylphenoxy polyalkylene glycol acrylate with the alkyl radical containing between 5 to 20 carbon atoms; monomers such as PEG20 nonyl phenyl ether, and vinyl monomers of a polyoxyalkylene alkyl phenyl ethers (substitute alkyl vinyl ethers) and their mixtures are also disclosed (see column 3, entire column; column 5, lines 25-68, and column 6, lines 1-40). The ratio of monomers composition in the copolymer is also disclosed (see column 3, line 24, and lines 40-60). The hydrophobic polymers includes polycarbonate, polysulfones, cellulosic, polyamide polymers (see

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column 3, 60-64), and the percentage of the copolymer in the membrane is between 1 to 20 % (column 3, lines 64-68).

The current claims are directed to copolymers including the claimed monomeric units, e.g. vinyl lactam (N-pyrrolidone), and the vinyl esters of carboxylic acids (b1, b4, b5) as in the present invention (see column 5, lines 25-53).

The term C8-C30 alkyl vinyl ethers (apparently with not substitute groups) (hydrophobic monomer is not disclosed as such in patent '120.

Mier ('814) teaches a process of making a membrane from a mixture of a hydrophobic polymer, e.g polysulfone, and hydrophobic monomer and hydrophilic monomer, which forms a tri-block copolymer, and suggest using as hydrophobic monomer C4-C12 alkyl vinyl ethers, C1-C12 alkyl esters of maleic acid (carboxylic acids), and monomers including C3-C13 acryloxy and methacryoxy groups (see column 4, lines 9-column 5, line 63, column 5, last paragraph, bridging column 6). It would have been obvious to one skilled in this art at the time this invention was made to substitute a hydrophobic monomer including alkyl vinyl monomers with the carbon numbers as claimed in sections b4 and b5 of claims 1 and, 9, 15-16, 20-21, since the vinyl alkylphenoxy ether of patent'120 appears to be substantially equivalent and perform the same function in modifying a hydrophobic polymer when reacted with a hydrophilic monomer to form a commoner or copolymer with the hydrophobic polymer, e.g polysulfone. The skilled in this art at the time this invention was made can expect the same type of modification for the hydrophobic polymer when reacting alkyl vinyl ethers, for example with the

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hydrophobic polymer and a hydrophilic monomer e.g. polyvinylpyrrolidone, which is taught by both references.

The monomers ratio in patent '120 is not exactly disclosed in the present invention however the range of 99 % and 1 % for the second monomer (hydrophobic monomer) percentage substantially overlap.

It would have been obvious to one skilled in this art at the time this invention was made to select a particular desired range of the monomers (hydrophilic/hydrophobic) depending on the degree of wettability (or hydrophilic properties) to be imparted to the hydrophobic base membrane polymer. The skilled in the art can expect a higher hydrophilic degree when the content of the hydrophilic monomer in the copolymer is higher.

Regarding claims 7 and 11, the modification of hydrophobic polymeric membranes by the addition of polyvinylpyrrolidone is old in the art and recognized by Applicant (see specification column 2, second paragraph). The addition of further hydrophilic additives, e.g. to further improve the membrane hydrophilic properties, to act as pore former and/or to adjust the polymer solution viscosity, it would have been obvious to the skilled artisan. Applicant also admits that the process of making the membrane is known in the art (see page 2, last paragraph).

Allowable Subject Matter

3. Claims 13-14, and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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4. The following is a statement of reasons for the indication of allowable subject matter: The copolymer including the hydrophobic monomer of sections b2 and b3 and not suggested in the prior art of record.

Response to Arguments

5. Applicant's arguments see pages 1-2, filed 1/31/07, with respect to the rejection(s) of claim(s) 1-11 under 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wilkinson ('120), and Mier ('814), as discussed above.

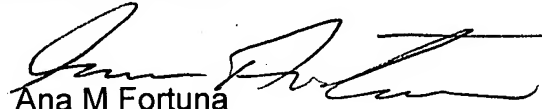
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M. Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ana M Fortuna
Primary Examiner
Art Unit 1723

AF
April 30, 2007